SCALING BEHAVIOUR OF RELAXATION DEPENDENCIES IN METALOXIDE SUPERCONDUCTORS

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ABSTRACT

Superconducting glass state has been investigated in different types of metaloxide ceramics /Y-Ba-Cu-O, Bi-Sr-Ca-Cu-O, Ba-Pb-Bi-O/ using the highly sensitive SQUID magnetometer. The analysis of long-time relaxation processes of thermoremanent magnetization

$$M^{trm}(t) = M_o - S\ln t$$

displayed scaling depencence of the decay rate $S = -dM/d\ln t$ on quantity of trapped magnetic flux M_o: $\lg S = 3\lg M_o$ - observed universal dependence $S \sim M_o^3$ seems to one of the features of superconducting glass state in metal-oxide ceramics.